

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 21 FEB 2005

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Applicant's or agent's file reference PWO-1017	FOR FURTHER ACTION See Notification of Transmittal or International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/CA 03/00955	International filing date (day/month/year) 23.06.2003	Priority date (day/month/year) 14.11.2002
International Patent Classification (IPC) or both national classification and IPC H04Q7/38		
Applicant RESEARCH IN MOTION LIMITED et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.
 - ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 26.05.2004	Date of completion of this report 18.02.2005
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**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/CA 03/00955

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-15 as originally filed
1a filed with telefax on 26.08.2004

Claims, Numbers

1-10 filed with telefax on 26.08.2004

Drawings, Sheets

1/8-8/8 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-10
	No: Claims	
Inventive step (IS)	Yes: Claims	1-10
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

Reference is made to the following document:

D1: US 2002/123348 A1

1. The present application meets the requirements of **Articles 33(2) and 33(3) PCT**, because the subject-matter of **Claim 1** is novel and involves an inventive step for the following reasons.

Document **D1**, which is considered to represent the most relevant state of the art, discloses, according to the features of **Claim 1** (applying the terminology of present **Claim 1** and the references to **D1**), a mobile device capable (UE unit 30, fig. 2) of supporting packet data services and voice services (paragraph [0003]) offered by wireless networks (paragraph [0050]), the mobile device comprising:

- a transceiver for exchanging packet data service authentication information with the wireless networks (transceiver 33, fig. 3);
- a memory (20N in the MS 30 of fig. 3, paragraph [0093]);
- a packet data services blacklist provided in the memory (20N in the MS 30 of fig. 3, paragraph [0093]), the packet data services blacklist identifying wireless networks that do not provide packet data services to the mobile device, the packet data services blacklist being based on previous packet data service authentication rejections (paragraph [0103]); and
- a processor (data processing unit 31, fig. 3) for updating the packet data services blacklist in response to newly received packet data service authentication information (paragraph [0106]).

The subject-matter of **Claim 1** differs from the disclosure of **D1** in that:

- the packet data services blacklist being distinct from a voice services blacklist.

The subject-matter of **Claim 1** is therefore novel (**Article 33(2) PCT**).

The problem to be solved by this distinguishing feature may be regarded as providing a means for identifying wireless networks not providing specifically packet data services, thus preventing the mobile station to make blind data call origination attempts to find out later that this is not allowed.

D1 only discloses a generic system to provide a black list information to the mobile station, however, in the black list disclosed by **D1** no distinction is made between voice services and packet data services.

Therefore, the combination of features of **Claim 1** is neither known from **D1**, nor rendered obvious by the other available prior art documents.

The subject-matter of **Claim 1** therefore involves an inventive step (**Article 33(3) PCT**).

2. The same considerations as made in respect of **Claim 1** are also valid for independent **Claims 4 and 10** which contain a similar feature combination as **Claim 1** in terms of claims relating to methods.

Therefore the subject-matter of **Claims 4 and 10** is novel and involves an inventive step (**Articles 33(2) and 33(3) PCT**).

3. Dependent **Claims 2, 3 and 5 to 9** are dependent on **Claims 1 and 4** respectively, and as such also meet the requirements of the PCT with respect to novelty and inventive step (**Articles 33(2) and 33(3) PCT**).

4. The attention of the Applicant is drawn to the following deficiencies:

- 4.1 The features of the independent **Claims 1, 4 and 10** have not been drafted in the two-part form in accordance with **Rule 6.3(b) PCT**, which in the present case would be appropriate, with those features known in combination from the prior art (document **D1**: see point 1. above) being placed in the preamble (**Rule 6.3(b)(i) PCT**) and with the remaining features being included in the characterising part (**Rule 6.3(b)(ii) PCT**).

- 4.2 The opening part of the description should have been modified to bring it into

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International application No. PCT/CA 03/00955

agreement with the amended independent claims, **Rule 5.1(a)(iii) PCT**.

[0004.1] United States Patent Application Publication No. U.S. 2002/0123348 of Willars et al. published on September 5, 2002 is entitled "Partial Support of Mobility Between Radio Access Networks". This reference is directed to a technique for precluding or rejecting access, in competition areas, to cells of a first operator's network in which access is attempted by or on behalf of a mobile terminal which subscribes to a second operator's network. It relates to the forbidding or blacklisting of a cell by a network operator because of political rather than service availability reasons. The reference describes functions which avoid selecting cells of the competitor's network in the competition area, even though this network is considered "equivalent" from cell selection point of view.

[0004.2] United States Patent Application Publication No. 2002/0147012 of Leung et al. published on October 10, 2002 is entitled "Mobile Communications". This reference describes a method of automatically establishing a roaming service for a mobile telephone, in particular for a newly powered up device. This method includes receiving a notification and retrieving and sending a list to a newly powered mobile device. The description mentions different methods of over the air update, which are generally known in the art. The goal is to provide flexibility to control the order of the mobile networks in the location update procedure. It provides a mechanism to ensure a preferred roaming network is selected with a chosen or flexible priority.

[0004.3] PCT Application No. WO 01/05169 of Jutila published on January 18, 2001 is entitled "Mobile Station Controlled Forbidden PLMN List Erasure". This reference discloses a mobile station having a forbidden PLMN list stored in a memory that is accessible to a mobile station processor. It relates only to the erasure of a PLMN list, and does not discuss the criteria for making a network forbidden, nor is there any discussion outside of the selective erasure of a list.

What is claimed is:

1. A mobile device (104) capable of supporting packet data services and voice services offered by wireless networks, the mobile device comprising:
 - 5 a transceiver for exchanging packet data service authentication information with the wireless networks;
 - a memory;
 - a packet data services (122) blacklist provided in the memory, the packet data services blacklist identifying wireless networks that do not provide packet data services to the mobile device, the packet data services blacklist being based on
10 previous packet data service authentication rejections and being distinct from a voice services blacklist; and
 - a processor for updating the packet data services blacklist in response to newly received packet data service authentication information.
15
2. The mobile device of claim 1 wherein the packet data services blacklist includes an element selected from the group consisting of: a system identifier and network identifier (132) for each wireless network not providing packet data services to the mobile device; a timer value (134) for each wireless network not providing
20 packet data services to the mobile device; an age timer for each wireless network not providing packet data services to the mobile device; and a flag (136) indicating whether an identification of a blacklisted wireless network has been passed to a server.
- 25 3. The mobile device of claim 1 wherein the packet data services blacklist includes a composite packet data services blacklist received from a server.
4. A method of data service discovery for a mobile device (104) having a packet data services (122) blacklist comprising:
30 detecting a wireless network;

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examining the packet data services blacklist stored on the mobile device, the packet data services blacklist being distinct from a voice services blacklist;

if the detected wireless network is listed in the packet data services blacklist, refraining from making any packet data call attempts for a predetermined period of time; and

otherwise, determining whether the wireless network provides packet data services to the mobile device, and adding the wireless network to the packet data services blacklist if the wireless network does not provide packet data services to the mobile device.

5 5. The method of claim 4 further comprising, prior to the step of checking, the step of determining whether the wireless network supports data service.

15 6. The method of claim 4 wherein the step of determining whether the wireless network provides packet data services to the mobile device comprises the step of authenticating the mobile device on the wireless network.

20 7. The method of claim 4 further comprising a step selected from the group consisting of: starting an age timer associated with a wireless network that is added to the packet data services blacklist; clearing an age timer associated with a wireless network in response to satisfaction of a reset condition; notifying a server of a newly blacklisted wireless network; and receiving a composite packet data services blacklist from a server.

25 8. The method of claim 4 further comprising the step of clearing the packet data services blacklist in response to a provisioning reset condition.

30 9. The method of claim 4 further comprising a step selected from the group consisting of: sending a notification to the server if a mobile device finds a wireless network which was not previously providing packet data services to the mobile

device and is now providing packet data services to the mobile device; and sending a notification from the server to other mobile devices to clear the entry of a wireless network which was previously not providing packet data services but currently is providing packet data services.

5

10. A method of packet data service notification in a wireless network, the wireless network including a server (128) and a mobile device (104), the method comprising:

receiving at the server a registration of a newly powered-up mobile device;

10 retrieving a server-stored packet data services (122) blacklist identifying wireless networks that do not provide packet data services to the newly powered-up mobile device, the server-stored packet data services blacklist being distinct from a voice services blacklist; and

15 sending the server-stored packet data services blacklist from the server to the newly powered-up mobile device for reception by and storage on the mobile device.